REMARKS

Claims 43-60 remain pending in the application.

The Examiner objects to claims 43-54, and requests that the term "region" be replaced with "layer" throughout. Applicant believes that the term "region" is used appropriately within the claims. Specifically, the claims recite a material having two or more regions which differ in crystallinity relative to one another. In such context, the term "region" does not introduce ambiguity or any other problem of interpretation into the claims. Applicant therefore requests withdrawal of the Examiner's objection in the Examiner's next Action. To the extent that the Examiner wishes to persist in maintaining the objection to the pending claims, the Examiner is invited to call the undersigned to explain how the change from the term "region" to the term "layer" improves the claims, or corrects any defect in the claims.

Claims 43-60 stand rejected as being either anticipated by Summerfelt (claim 43), or as being obvious in view of Summerfelt in combination with Sone (claims 43-60). Applicant requests reconsideration of such rejections.

Referring first to claim 43, such recites a capacitor construction in which a perovskite-type dielectric material is between a first capacitor electrode and a second capacitor electrode. The claim further recites that the perovskite-type material comprises a first region and a second region, with the second region having a different amount of crystallinity than the first region.

Claim 43 is believed allowable over the Examiner's cited references for at least the reason that the references do not suggest or disclose the claim 43 recited perovskite-type material having a pair of regions which differ in crystallinity relative to one another.

The Examiner contends that Summerfelt discloses at col. 3, ln. 55 through col. 4, ln. 4 a perovskite-type material comprising two layers which differ in crystallinity relative to one another. Applicant disagrees with the Examiner's conclusion.

While it is true that Summerfelt discloses a dielectric material having three discrete layers (the layers being referred to as 32, 34 and 36 in the drawings, and in col. 3, lns. 55-57) there is no disclosure in Summerfelt that the layers differ in crystallinity relative to one another. Instead, Summerfelt describes a difference in dielectric constant between the materials, and indicates at col. 1, ln. 62 through col. 2, ln. 5 that there can be a correlation between a dielectric constant of a material and the leakage current. Specifically, the reference contends that materials having a moderate dielectric constant generally have lower leakage current density than materials having a high dielectric constant. Summerfelt indicates that the dielectric constant can be controlled by controlling a composition of a material, and specifically indicates that moderate dielectric constant materials include $SrTiO_3$, while high dielectric constant materials include (Ba, Sr)TiO_3. Summerfelt goes on to disclose that it can be advantageous to provide a dielectric material having low leakage current and moderate dielectric constant on either side of a material having high leakage current and high dielectric constant. Accordingly, Summerfelt discloses a dielectric material comprising three distinct layers (which can also be considered three distinct regions) which differ in chemical composition relative to one another. The outer two layers are disclosed to comprise a composition having a moderate dielectric constant, while the inner layer is disclosed to comprise a dielectric material having a high dielectric constant.

Summerfelt is describing changes in chemical composition utilized to control leakage current and dielectric constant, and does not disclose or suggest that changes in

crystallinity can also influence, and possibly control, leakage current. This is a significant difference between the process described in Summerfelt and that recited in the claims. Specifically, the claims explicitly recite that a dielectric material has different regions with different crystallinity relative to one another, whereas Summerfelt never discusses the relative crystallinity of the low leakage current density regions relative to the high leakage current density regions. Further, there is no reason to expect that a difference in crystallinity would be inherent between the low leakage current density regions of Summerfelt and the high leakage current density regions. Rather, it can be the change in composition between the regions which influences leakage current, rather than any change in crystallinity between the regions.

The Examiner's second cited reference of Sone describes a process wherein a perovskite film is initially provided in an amorphous form, and subsequently crystallized. However, Sone, like the Examiner's other reference of Summerfelt, does not describe or suggest any structure wherein a perovskite material is formed between a pair of capacitor electrodes, and comprises two regions which differ in crystallinity relative to one another.

As neither of the Examiner's cited references suggests or discloses the claim 43 recited perovskite material provided between a pair of capacitor electrodes and comprising a first region which differs in crystallinity from a second region, it is inconceivable that the references could, in any combination, suggest the subject matter of claim 43. Accordingly, claim 43 is not anticipated by Summerfelt alone, or suggested by Summerfelt in combination with Sone. Applicant therefore requests formal allowance of claim 43 over the cited references in the Examiner's next Action.

Claims 44-60 depend from claim 43, and are therefore allowable for at least the reasons discussed above regarding claim 43, as well as for their own recited features.

Claims 43-60 are allowable for the reasons discussed above. Applicant therefore requests formal allowance of claims 43-60 in the Examiner's next Action.

Respectfully submitted,

Dated: 8/22/02 By: _____

David G. Latwesen, Ph.D.
Reg. No. 38,533